Why not 'EURYSTOMATA' ?

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Abigail Smith, Treasurer
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Copies of the Bulletin are archived at the Natural History Museum London.

Further information at http://www.bryozoa.net/iba/index.html

COUNCIL ANNOUNCEMENTS

2018 INTERNATIONAL BRYOZOOLOGY ASSOCIATION AWARDS

The IBA Council is pleased to announce the 4th triennial International Bryozoology Association Awards. The Awards are made possible from voluntary contributions from IBA members. The overall aim of the IBA Awards is to support bryozoan research by providing travel grants towards attendance at IBA conferences. We will give priority to supporting students (and others who have limited access to funding sources) who are IBA members, who have not previously received an award, and who wish to present their research at an IBA meeting.

Application Guidelines:

a. Applications must be sent by email to the IBA Secretary, Catherine Reid.

b. Each email application must contain

- a brief CV and short abstract of the research to be presented (1 page)
- a description of the project/travel including a budget and information as to whether the applicant has obtained or may obtain support towards the costs from other sources (along with amounts) (1 page)
- a letter of support (from employers, supervisor, or associate) (1 page)

Compiled in that order, as a single .pdf document.

c. The deadline for applications is October 1, and the awards will be announced by November 1.

d. Applicants will be notified within a month of applications closing (15 February 2010).

e. Amounts awarded and number of awards are at discretion of the committee and dependent on availability of funds. Awards may not be made if there are no suitable applicants.

f. Anyone receiving an IBA Award for attendance of an IBA meeting must present a paper at that IBA meeting during which they must mention support from IBA Award, and further acknowledge support of the IBA in any related presentation or publication.

g. For all applicants the deadline for Early Registration will be extended to December 31, 2018.

Please send applications by email before 1 October 2018 to Catherine Reid at this email address:
catherine.reid@canterbury.ac.nz

Tim Wood, IBA President

The **IBA TRAVEL AWARDS** called for above allow for a travel award to attend the IBA conference in Liberec – it is these young people who are the future of the IBA, and we want to support as many as we possibly can. As you know, the IBA has no formal membership fees, and the Treasurer accepts donations in any amount at any time. Some members donate once every three years, some donate every year, and some do not. Since Melbourne, we have had 51 donations totalling $7325, in amounts ranging from $10 to $1500 NZD. If you are not sure if you have donated in this cycle, feel free to email the treasurer.

Right now, the IBA bank account stands at about $8000 NZD which is about $4500 Euro – enough for three good-sized travel grants, or for about 15 student registration fees. I am sure we can do better!

Please think about the future of the association, and donate something, no matter how small, in the next month, so the Awards committee can support as many young bryozoologists as possible in getting to our gathering in Liberec. Thank you.

Abby Smith, Treasurer
Abby.smith@otago.ac.nz
(A donation form is attached to the same email as this newsletter, or you can get one from the Membership part of the IBA website, or you can email Abby)

CALL FOR NOMINATIONS FOR THE IBA ELLIS MEDAL FOR 2019.

The Ellis Medal, conceived by Patrick Wyse Jackson, was established at the 16th International Bryozoology Association conference in Catánia. Further details and an outline of the selection procedure was outlined in the IBA Bulletin 9(2) [2013], page 11.

The medal is to be awarded to an IBA members who has provided exceptional service to the Association or to the wider bryozoological community. The IBA President (currently Tim Wood) shall seek nominations in the year prior to the triennial Conference and shall select one (or exceptionally a maximum of two recipients) drawn from the nominations. The President's choice of recipient(s) shall be confirmed by a subgroup made up of three members of the IBA Council. The Medal is then awarded at the next conference by the out-going IBA President.

Previous recipients of the Ellis Medal have included Norbert Vávra and Phil Bock.

At this time Tim will be happy to receive nominations (by email) by 1st October 2018. Please briefly outline in no more than 200 words the contribution made by your nominee to the IBA and or to the wider bryozoological community. Please do not notify the nominee that you have forwarded their name to Tim. The names of nominees will be kept strictly confidential.

Tim's email address is tim.wood@wright.edu

NEW MEMBERS

Jasmine Ferrario - I am currently a post-doc fellow at the University of Pavia in Italy, and since 2012 I have been working at the Department of Earth and Environmental Sciences, under the supervision of Prof. Anna Occhipinti-Ambrogi. My main research topic deals with the assessment of fouling assemblages in Mediterranean ports and marinas, with the aim to detect non-indigenous species, especially those likely to be introduced by a vector still poorly known in the Mediterranean Sea, namely recreational boating. In the last years our research team has had the opportunity to sample more than 50 port localities in the Mediterranean, assessing fouling non-indigenous assemblages on hard artificial substrates, such as wharfs/floating pontoons and on boat hulls, confirming the importance of this vector for non-indigenous species introduction and spread.

During my PhD, obtained at the University of Pavia, I have learned how to identify marine invertebrates of different taxonomic group, and I found a special interest in Bryozoa, following also the footsteps of my supervisor. I have published a few papers on spreading histories of non-indigenous bryozoan species in the Mediterranean Sea and also a first Mediterranean finding. However, I still need to improve my taxonomic skills on Bryozoa, especially on the extra-Mediterranean ones that are likely to be introduced in the next future. Hence, I am pleased to be part of the IBA community, and to have the great opportunity to meet bryozoologist experts in a stimulating international environment. I also hope to be able in the future to positively contribute to the life of the association jasmine.ferrario@unipv.it

NEWS FROM THE MEMBERSHIP

Abby Smith - BRYOZOANS ON NEW ZEALAND TV - The natural history documentary series “Coast” showed its second season in New Zealand in April and May; Episode 4 had a section on the bryozoan limestones of Oamaru. Abby Smith appeared for about 2 minutes, and Katerina Achilleos provided some lovely footage of living lophophores. It appears that overseas people can’t see it on demand (but try https://www.tvnz.co.nz/shows/coast-new-zealand), so I made a short (not very good quality) video off the TV. Will bring it to Liberec, but if you’re impatient, I should be able to email it to you. – Abby

Steve Hageman (Appalachian State, Boone NC USA) received a Fulbright Research Fellowship for the Fall of 2018. He with be working at the Polish Academy of Science, Institute of Oceanology with Piotr Kuklinski and his colleagues from September through December. They will be studying body size in bryozoans and other marine invertebrates in relation to recent and historical changes in Arctic Polar environments due to anthropogenic climate change.

Leandro M. Vieira : Laboratório de Estudos de Bryozoa – LAEBry - Since I start my contract (full-time permanent position) as Professor at Zoology Department of Universidade Federal de Pernambuco (UFPE), I`ve dedicated with lectures for undergraduate (Biological Sciences) and graduate students (both Master and PhD in Animal Biology), administrative duties (Head of Zoology Department since 2016), and supervision of students (undergraduate and graduate). As Laboratory leader of the research group *LAEBry* (*Laboratório de Estudos de Bryozoa*) - http://dgp.cnpq.br/dgp/espelhogrupo/8112464298247026, my team are dedicated on research of marine bryozoans, focusing on taxonomy, systematics, phylogeography and biological invasions. Our team is comprised of scientific staff (researchers and students) who are based on three different institutions in Brazil:

Universidade Federal de Pernambuco, UFPE.
City of Recife, Pernambuco, NE Brazil.
Location: https://goo.gl/maps/UdK5j3eUNjJ2
Institutional website: https://www.ufpe.br/

Universidade Federal da Bahia – UFBA.
City of Salvador, Bahia, NE Brazil
Location: https://goo.gl/maps/jcewAidZYBT2
Institutional website: https://www.ufba.br/

Centro de Biologia Marinha of Universidade de São Paulo – CEBIMar, USP.
City of São Sebastião, São Paulo, SE Brazil
Location: https://goo.gl/maps/iyjBs5YFqp62
Institutional website: http://cebimar.usp.br

LAEBry's Team
Brazilian Researchers
Dr. Leandro Manzoni Vieira – Professor, UFPE, leandromanzoni@gmail.com / leandromanzoni@hotmail.com
Dr. Ana Carolina Sousa de Almeida – Postdoctoral Researcher, UFPE, carol.salmeida@gmail.com
Dr. Alvaro Esteves Migotto – Professor, CEBIMar, aemigott@usp.br
Dr. Facelúcia Barros Côrtes Souza – Professor, UFBA, facelucia@gmail.com

Current students
Karine Bianca Nascimento – PhD Student, USP (under supervision of Alvaro and Leandro). Project: Taxonomy and Phylogeny of *Beania* (Cheilostomata: Buguloidea).
Everthon Xavier– PhD Student, UFPE (under supervision of Leandro). Project: Detection and monitoring of *fouling* species at the Suape Harbour, Permanbuco, Brazil.
Igor Ricardo do Nascimento Mignac Larré – MSc Student, UFPE (under supervision of Leandro). Project: Taxonomy of marine bryozoans from Potiguar Basin, Brazil.
Francisco das Chagas Silva Neto – Undergraduate Student (Biological Science), UFPE (under supervision of Leandro). Project: Bryozoans from north of Pernambuco, NE Brazil.
Maria Jackeline Soares Rodrigues – Undergraduate Student (Biological Science), UFPE (under supervision of Leandro). Project: Taxonomy of *Stylopoma* (Cheilostomata: Schizoporelloidea) from Brazil.
Jamile Farias – applying for a MSc programme, UFBA (under supervision of Facelúcia and Ana Carolina). Project: Taxonomy of *Parasmittina* species (Cheilostomata: Smittinoidea) from Brazil.
Luana Cruz – applying for a MSc programme, UFBA (under supervision of Facelúcia and Ana Carolina). Project: To be definied.

CaLLs for proposals: young postdoc and to study bryozoans in Brazil - Despite the actual bad political-economic situation in Brazil, we are looking to increase the bryozoology team in Brazil. Thus, we offer the opportunity to receive new applications for Postdoc researchers and new students in Graduate courses through the Animal Biology Graduate Programme (PPGBA) of Universidade Federal de Pernambuco. Thus, the applicant could be part of the LAEBry team, to apply for Postdoc grant (6 to 12 months) or for a graduate scholarship (two years for Master, or four years for PhD). This will also be an unique opportunity to be involved (and help us) with IBA Conference, that will be host in Brazil in 2022!

PostDoctoral fellow - CNPq/TWAS CALL FOR APPLICATIONS Nº 24/2018
Link with data of this application: http://resultado.cnpq.br/0235755905859676

MSc and PhD in Animal Biology

Next year (February 2019), the Animal Biology Programme will offer 11 scholarships (for both Brazilians and foreigners), to course Masters (2 years) and Doctoral studies (four years) in Brazil. As supervisor, I expect that the applicant include in the research any topic related to bryozoans, from taxonomy, systematics, phylogeny, bioinvasion, while topics on bryozoan systematics, phylogeny, phylogeography, with evolutionary approaches are expected for PhD applicants. The University also provides ways to provide dual graduate degree, in collaboration with other university in around the world (after formal agreement).

More information on these Programmes: https://www.ufpe.br/en/ppgba/o-programa or can email me directly at leandromanzoni@gmail.com

Ana Carolina Sousa de Almeida - Last month I defended my doctoral thesis entitled "Taxonomy of marine bryozoans from Bahia State, northeast Brazil" under the advising of Leandro Vieira (Universidade Federal de Pernambuco, Brazil). We already published 7 papers (listed below) with results of this Project and more is being prepared.

Now I was approved to a 1-year postdoctoral fellowship with a Project entitled "Morphological and molecular characterization of the Malacostegina species (Bryozoa, Gymnolaemata) from Brazil: an integrative approach" also under the supervision of Leandro. The main expected results are: (i) morphological, morphometric and molecular characterization of Malacostegina bryozoans from Brazil; (ii) reassessment of Malacostegina's morphological characters; (iii) elucidation of the molecular identity of populations of *Biflustra arborescens*, *Biflustra marcusi*, *Biflustra tenuis* and *Jellyella tuberculata* along the western Atlantic (Figure below); (iv) evaluation of the connectivity of the studied populations. Unfortunately, Brazilian laws are hampering the exchange of specimens and, until a revision of these laws, I wonder if anyone can share/donate DNA sequences and/or SEM imagens of any Malacostegina species (specially *Biflustra*, *Jellyella* and *Arbocuspis*). It will be great if more people can collaborate with the project. Feel free send any message regarding this topic to me (carol.salmeida@gmail.com). Many thanks!!

Last but not least, two young biologist are now working on marine bryozoans under my supervision: Jamile Farias and Luana Cruz. Jamile did her final graduation work with *Parasmittina* species from Brazil and is now writing a Master's Project to review all *Parasmittina* from the Atlantic. Luana is organizing and updating the Bryozoa Collection of the Museu de Zoologia da Universidade Federal da Bahia (UFBA) and is beginning to study the taxonomy and biology of the bryozoans, also aiming to write a Master's Project.

List of published papers from my doctoral thesis:

Almeida A.C.S., Alves O., Peso-Aguiar M., Dominguez J. & Souza F.B.C. (2015) Gymnolaemata bryozoans of Bahia State, Brazil. Marine Biodiversity Records (online). http://dx.doi.org/10.1017/S1755267215000743

Almeida A.C.S., Souza F.B.C., Gordon D.P. & Vieira, L.M. (2015) The non-indigenous bryozoan *Triphyllozoon* (Cheilostomata: Phidoloporidae) in the Atlantic: morphology and dispersion on the Brazilian coast. Zoologia (Curitiba), 32 (6). http://dx.doi.org/10.1590/S1984-46702015000600007

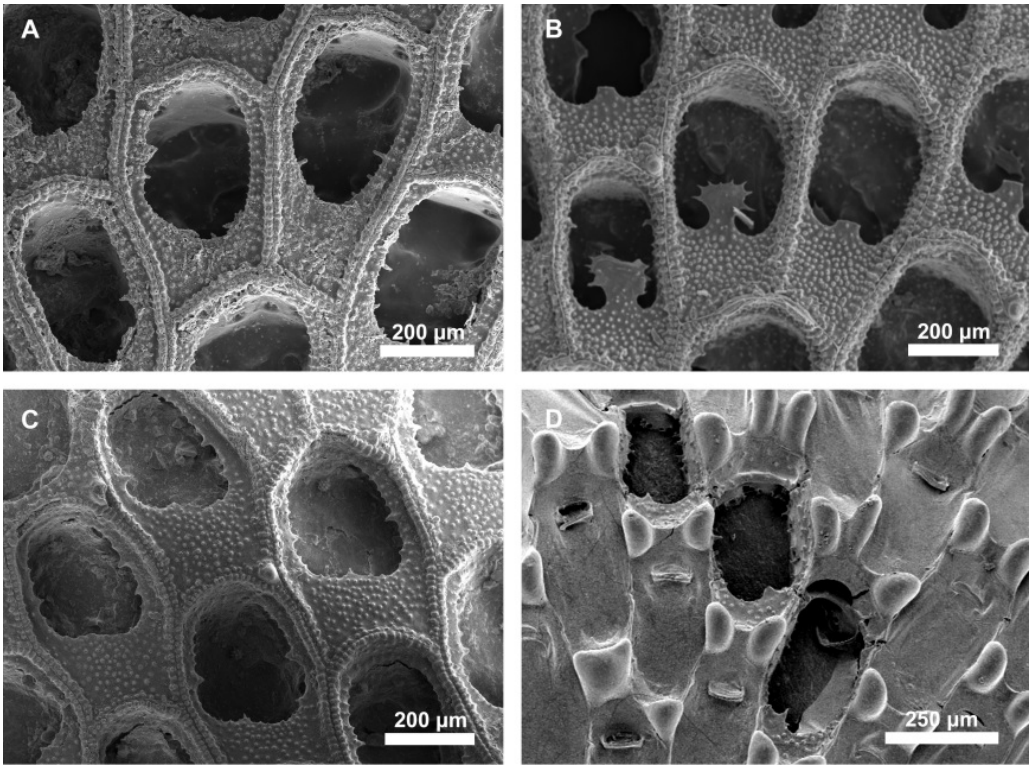
Almeida A.C.S., Souza F.B.C., Sanner J. & Vieira, L.M. (2015) Taxonomy of Recent Adeonidae (Bryozoa, Cheilostomata) from Brazil, with the description of four new species. Zootaxa, 4013 (3): 348-368. http://dx.doi.org/10.11646/zootaxa.4013.3.2

Almeida A.C.S., Souza F.B.C., Menegola C.M.S. & Vieira L.M. (2017) Diversity of marine bryozoans inhabiting demosponges in northeastern Brazil. Zootaxa, 4290 (2): 281-323. https://doi.org/10.11646/zootaxa.4290.2.3

Almeida A.C.S., Souza F.B.C. & Vieira L.M. (2017) Malacostegine bryozoans (Bryozoa: Cheilostomata) from Bahia State, northeast Brazil: taxonomy and non-indigenous species. Marine Biodiversity (online). http://dx.doi.org/10.1007/s12526-017-0639-x

Almeida A.C.S., Souza F.B.C., Farias J., Alves O. F.S. & Vieira, L.M. (2018) Bryozoa on disarticulated bivalve shells from Todos os Santos Bay, northeastern Brazil, with the description of two new species. Zootaxa, 4434 (3). http://dx.doi.org/10.11646/zootaxa.4434.3.1

Almeida A.C.S., Souza F.B.C. & Vieira L.M. (2018) A new species of *Cellaria* (Bryozoa: Cheilostomata) from northeastern Brazil, with a tabular identification key to the Atlantic species. Zoologia, 35: 1-7. https://doi.org/10.3897/zoologia.35.e24571



SEMs images of Malacostegina *(=*Membraniporina*) from Brazil to be studied using morphological and molecular data: (A)* Biflustra arborescens*, (B)* Biflustra marcusi*, (C)* Biflustra tenuis *and (D)* Jellyella tuberculata*.*

Photo from the committee of my doctoral defense. From left to right: Alvaro Migotto (Universidade de São Paulo), Rosana Rocha (Universidade Federal do Paraná), Ulisses Pinheiro (Universidade Federal de Pernambuco), Ana Carolina Almeida (Universidade Federal de Pernambuco), Leandro Vieira (Universidade Federal de Pernambuco), Luciana Iannuzzi (Universidade Federal de Pernambuco) e André Esteves (Universidade Federal de Pernambuco).

Karine Bianca Nascimento - For three years I have been researching about the genus *Beania* in my PhD under supervision of Leandro Vieira and Alvaro Migotto. In these years, I examined specimens deposited at different collections, including Victoria Museum (Melbourne, Australia), NIWA (Wellington, New Zealand), NHMUK (London, UK), MZUSP (São Paulo, Brazil) and MNRJ (Rio de Janeiro, Brazil). I'm really grateful to Chris Rowley, Dennis Gordon, Mary Spencer Jones and Paul Taylor for help during visits at Victoria Museum, NIWA and NHMUK. Until now, some useful specimens were kindly sent to me by Javier Souto and Jo Harmelin. Thus, I was able look more than 650 *Beania* specimens, getting good pictures and SEM from most of them. This genus looks to be highly diverse, but only about 75 had been described; from those, I have check specimens belonging to 56 named species (39 type specimens). Furthermore, a lot of *Beania* specimens were previously misidentified and, thus, I found more than 30 new species, including other species complex!!!

Now, I am working on the phylogeny based on morphological characters. Additionally, I'll also perform a molecular analyses to compare with morphological data, to reevaluate morphological characteristics use in *Beania*. At this point, we believe *Beania* comprises a polyphyletic group (we look forward to more on relationship with analysis using morphology and genetic data).

If you have some *Beania* specimens (or pictures), I' would like to receive them to include in my analyses. Also, will be also a pleasure to help anyone with identifications of *Beania* species!

Noga Sokolover- At long last: a Natural History Museum in Israel - The Steinhardt Museum of Natural History. The natural history collections themselves have probably been established during the mid 30's of the 20th century (though we have specimens that were collected previous to that). However, they were lodged in different places and not the most accommodating ones. The new museum, located at and affiliated with the Tel Aviv University (the collections and staff were part of the university all along), is first and foremost a house for over five and a half million specimens of fauna and flora, and secondly a natural history museum open to the public. The items on display include species that have become extinct in our region, including the last bear from 1916, an Asiatic cheetah from 1911, the last crocodile from the Taninim Stream, all of which belong to the Schmitz collection, predatory birds and other unique birds, including the only albatross spotted in Israel's skies.

You can all imagine what it means to relocate the entire collections and I am happy to say that during the move only one! jar broke, and few during a hit and run accident already in the new location. The mission ahead is to unpack and arrange everything on the shelves, a task that will take us a while longer. It is hard to describe the progress we have made from some few sheds in the Tel Aviv University's Zoological Gardens (infested with rats), to a new state of the art building equipped with a molecular laboratory and a clean room for ancient DNA. Please feel free to contact me or direct your colleagues if they are interested in our collections.

A treasure chest or Noah's Ark? The wooden block is where the collections halls are located- with no windows and monitored climatic environment

Andrey Ostrovsky - I wish to add a small note to the IBA Bulletin congratulating two of our beautiful people with 50 years of their publishing activity. Checking Prof. N. Vavra old reprints I came across the Jo Harmelin paper …

Harmelin, J. G. (1968). Contribution a l'étude des bryozoaires cyclostomes de Méditerranée: les Crisia des Côtes de Provence. Bulletin du Museum d'Histoire Naturelle, Paris (série 2), 40, 413-437.

and I suddenly realized that just recently I reviewed his fresh paper. Then I thought, well, what about Dennis Gordon then, and immediately found his ….

Gordon, D. P. (1968). Zooidal dimorphism in the polyzoan *Hippopodinella adpressa* (Busk). Nature, 219(5154), 633.

Oh, there were the times when students published papers in Nature :-) Below you will find my brief communications with them.

Dear Dennis and Jo,

What I have recently learned is that your first bryozoan papers have been published 50 years ago! And you both, guys, are actively publishing papers till now!!!!

I wish you would do this another 100 years!

A big hug,
Andrey

Re: "I wish you would do this another 100 years!" Thank you. So do I. I'll never be able to match Voigt's record. I was reflecting on this half-century milestone a couple of months ago, and marvelling that the years have gone by so fast.

Dennis

Dear Andrey
Hard to realize that this first step (Crisia taxonomy) in the harsh world of bryozoans was published 50 years ago! To celebrate this I will submit soon a paper on Mediterranean and Atlantic Collarina species and I will propose you and Dennis as reviewers.
Many thanks for this flash-back.
Cheers - Jo H.

My addition:
P.S. Of course, we don't forget our greatest members (Roger Cuffey, John Ryland, Peter Hayward and others) that are still very active, but I was born in 1965, and just don't remember those paper that they published before my birth :-)
Andrey

Paul Taylor - Travels to South Korea and the Czech Republic - I was very fortunate to have received invitations to visit South Korea and the Czech Republic during April and May 2018 from Seo Ji Eun (Woosuk University, Jincheon, South Korea) and Kamil Zagorsek (Technical University of Liberec, Czech Republic), the latter granted by the mobility fund provided by rector of the university. Ironically, neither of my invited lectures concerned bryozoans. At Woosuk University, Ji Eun asked me to give an amusing scientific talk. Bryozoans sometimes raise a few laughs but not nearly as many as three unfortunate figures from the history of palaeontology: Johan Beringer (famous for his 'lying stones'), Randolph Kirkpatrick (of 'Nummulosphere' notoriety) and Chonosuke Okamura (who saw mini-humans and other animals in thin sections of Palaeozoic limestones). As Kamil teaches in a geography department, my talk in Liberac was on the Chalklands of Britain and had a physical and economic geographical focus. But, of course, both visits provided great opportunities for bryozoological collaboration too.

In Korea I met Ju Eun's enthusiastic group of students: Yang Ho Jin, Seung Hyun, Seung Joon, Geon Woo and Hyun Sook (aka 'J'). There is no South Korean museum of natural history; instead what amounts to the national collection is kept by Ji Eun in her lab at Woosuk University. And an excellent collection it is too. Dennis Gordon, Judy Winston, Tim Wood and Kamil have all been recent visitors to Jincheon to study this important collection. As a palaeontologist, I was attracted to a dry collection of bryozoan-encrusted shells from Jeju Island off the south coast (I'm far less comfortable with the spirit-preserved material constituting most of the collection). Ho Jin and I scanned some of the cyclostomes on the Jeju shells using a Korean-made desktop SEM, finding two genera that are new to Korea (*Desmeplagioecia* and *Erksonea*).

Left - 'J' and me standing beneath the banner advertising my talk at Woosuk University. Right - Three of Ji Eun's students: Seung Joon, Seung Hyun and Geon Woo.


Left - Ho Jin at the helm of Woosuk's desktop SEM. Right - Colony of the cyclostome Disporella *trying to defend its ground against the threatening* Thalamoporella *on a shell from Jeju Island.*

Because it is the venue for next year's IBA conference, I was particularly interested to see Liberec. It didn't disappoint. Liberec is a small city close to the border with Germany and Poland, both of which are visible on the northern horizon from the top of nearby Jested hill after taking the cable lift. The Technical University of Liberec began as a textile college but is now expanding its scope and is very welcoming of international collaborations and conferences. Indeed, we had a mini-bryozoan gathering of our own as Ji Eun, Thomas Schwaha and Eva Jezkova were also visiting while I was there. After the others had left, Kamil, Ji Eun and I travelled to eastern Moravia, specifically to Stramberk which is famous for its Stramberk Ears (biscuits shaped like human ears), and the Stramberk Limestone, a Late Jurassic–Early Cretaceous deposit reputed to contain more invertebrate species than any other of Mesozoic age. Needless to say, Kamil and I were not targeting the ears. For several years on-and-off we have been working on bryozoans from the Stramberk Limestone and during this trip we were able to see the collections at the municipal museum in Novy Jicin, and to visit the huge Kotouc Quarry under the guidance of Petr Skopien (Technical University of Ostrava). Petr led us to the richest level for bryozoans, which we now know is Cretaceous (Early Berriasian) rather than Jurassic (Tithonian) in age.

For those who you are still undecided about whether to participate in next year's IBA conference in Liberec, it is worth highlighting some of the attributes of Liberec. The local beer is wonderful and the food excellent, costing less than half of their equivalents in England. As for the setting, Liberec is a charming city off the main tourist map, yet full of interest and appeal, and the enthusiasm of the host university for international cooperation will ensure a warm welcome for the IBA conference delegates.

The town hall at Liberec, Czech Republic


Left - Entirely for the purpose of research, Ji Eun and Kamil sample the beer at the restaurant beneath Liberec town hall where the IBA conference dinner will be held next year. Right - Eva, Thomas and Kamil, each with a different reaction to being photographed.


Left - Stramberk Limestone exposed in Kotouc Quarry. Right - Encrusting cyclostome Reptoclausa *from the Stramberk Limestone (Novy Jicin Museum collections).*

ARTICLE

WHY NOT 'EURYSTOMATA' ?

Claus Nielsen

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The name Bryozoa was introduced by Ehrenberg (1831) and has been recognized as a phylum for almost two centuries. The alternative name Polyzoa introduced by Thompson (1830) was published a year earlier and has been used sporadically, especially by British authors, but it has now gone out of use as a phylum name. And the name of our society is indeed International Bryozoology Association!

Allman (1856) proposed to divide the phylum in two 'orders', Phylactolaemata with an epistome and Gymnolaemata without an epistome. 'Pedicellinea' was included in Phylactolaemata and *Urnatella* in the Gymnolaemata. Based on a number of characters of *Loxosoma, Pedicellina* and *Urnatella,* Nitsche (1870) considered them as the sister group of all other bryozoans and gave them the name Entoprocta.

The name Phylactolaemata has been is stable use since that, but the name Gymnolaemata has been given different meanings during the years. Already before Allman, Busk (1852) had divided the marine bryozoans in three 'suborders': Cyclostomata, Cheilostomata and Ctenostomata; freshwater species were not included. However, Borg (1926) raised the Cyclostomata (Stenolaemata) to 'order' rank, and surprisingly, this division of the Bryozoa has persisted into modern times, see for example (Hayward and Ryland 1998), Bock and Gordon (2013) and WoRMS (2018). However, several studies on fossils, e.g. Todd (2000) and morphology e.g. Silén (1942), and all modern phylogenomic studies (Fuchs *et al.* 2010; Fuchs *et al.* 2009; Hausdorf *et al.* 2010; Taylor and Waeschenbach 2015; Waeschenbach *et al.* 2012) indicate that the Cheilostomata and Ctenostomata are closely related and form one clade, which is the sister group of the Cyclostomata (Stenolemata), and that these two clades together form the Gymnolaemata. Already Marcus (1938) proposed the names 'Cheilo-Ctenostomata' and 'Eurystomata', with preference for the latter. Only few bryozoologists have followed Marcus' classification, for example (Prenant and Bobin 1956).

The fossil record furthermore show that the cheilostomes evolved from a group of ctenostome-like ancestors in the Jurassic (Taylor 1990).

However, if one wants to retain the old names Cyclostomata, Ctenostomata and Cheilostomata, a logical classification of the living bryozoans would be:

Bryozoa Ehrenberg, 1831
- Phylactolaemata Allman, 1856
- Gymnolaemata Allman, 1856
  - Cyclostomata Busk, 1852
  - Eurystomata Marcus, 1938
    - Ctenostomata Busk, 1852
    - Cheilostomata Busk, 1832

Allman, G. J. 1856. *A Monograph of the fresh-water Polyzoa : Including all the known Species, both British and foreign*. Ray Society, London.

Bock, P. E. and Gordon, D. P. 2013. Phylum Bryozoa Ehrenberg, 1831. - *Zootaxa* **3703(1):** 67-74. Borg, F. (1926). "Studies on Recent cyclostomatous Bryozoa." *Zoologiska Bidrag från Uppsala* **10**: 181-507.

Busk, G. 1852. An account of the Polyzoa, and sertularian zoophytes, collected in the Voyage of the Rattlesnake, on the Coasts of Australia and the Louisiade Archipelago, &c. In: MacGillivray, J., (Ed.) *Narrative of the voyage of H.M.S. Rattlesnake*, vol. 1, pp. 343-402. T. & W. Boone, London.

Ehrenberg, C. G. 1831. *Symbolae Physicae, seu Icones et Descriptiones Animalium Evertebratorum sepositis Insectis, quae ex itinere per African Borealium et Asiam Occidentalem ...* Berolini.

Fuchs, J., Iseto, T., Hirose, M., Sundberg, P. and Obst, M. 2010. The first internal molecular phylogeny of the animal phylum Entoprocta (Kamptozoa). - *Molecular Phylogenetics and Evolution* **56:** 370-379.

Fuchs, J., Obst, M. and Sundberg, P. 2009. The first comprehensive molecular phylogeny of Bryozoa (Ectoprocta) based on combined analyses of nuclear and mitochondrial genes. - *Molecular Phylogenetics and Evolution* **52:** 225-233.

Hausdorf, B., Helmkampf, M., Nesnidal, M. P. and Bruchhaus, I. 2010. Phylogenetic relationships within the lophophorate lineages (Ectoprocta, Brachiopoda and Phoronida). - *Molecular Phylogenetics and Evolution* **55:** 1121-1127.

Hayward, P. J. and J. S. Ryland (1998). Cheilostomatous Bryozoa Part I. Aeteoidea - Cribrilinoidea. London, Linnean Society of London.

Marcus, E. 1938. Bryozoários marinhos brasileiros II. - *Boletim da Faculdade de Filosofia, Ciências e Letras, Universidade de Sao Paulo, Zoologia* **2:** 1-137.

Nitsche, H. 1870. Beiträge zur Kentniss der Bryozoen II. Ueber die Anatomie von *Pedicellina echinata* Sars. - *Zeitschrift für wissenschaftliche Zoologie* **20:** 13-36.

Prenant, M. and Bobin, G. 1956. Bryozoaires. Première partie. Entoproctes, Phylactolèmes, Cténostomes. - *Faune de France* **60:** 1-398.

Silén, L. 1942. Origin and development of the cheilo-ctenostomatous stem of Bryozoa. - *Zoologiska Bidrag från Uppsala* **22:** 1-59.

Taylor, P. D. 1990. Bioimmured ctenostomes from the Jurassic and the origin of the cheilostome Bryozoa. - *Palaeontology* **33:** 19-34.

Taylor, P. D. and Waeschenbach, A. 2015. Phylogeny and diversification of bryozoans. - *Palaeontology* **58:** 585-599.

Thompson, J. V. 1830. On Polyzoa, a new animal discovered as an inhabitant of some Zoophites - with a description of the newly instituted genera of *Pedicellaria* and *Vesicularia*, and their species. *Zoological Researches, and Illustrations; or Natural History of Nondescript or Imperfectly Known Animals, in a Series of Memoires, Memoire 5*, pp. 89-102. King & Ridings, Cork.

Todd, J. A. 2000. The central role of ctenostomes in bryozoan phylogeny. In: Herrera Cubilla, A. and Jackson, J. B. C., (Eds.): *Proceedings of the 11th International Bryozoology Association Conference*, pp. 104-135. Smithsonian Tropical Research Institute, Balboa, Panama.

Waeschenbach, A., Taylor, P. D. and Littlewood, D. T. J. 2012. A molecular phylogeny of bryozoans. - *Molecular Phylogenetics and Evolution* **62:** 718-735.

WoRMS. 2018. http://www.marinespecies.org/aphia.php?p=taxdetails&id=146142

ERRATUM

CORRECTION TO "EMBRANCHEMENT VERSUS PHYLUM”

Jean-Loup d'Hondt

Dear colleagues,

An incorrect and infortunate translation in English of the title in French of one of my papers ("Embranchement versus Phylum : comment la conjoncture international peut influencer la nomenclature scientifique et la classification animale" ; in fact : " Embranchement versus Phylum : how the international contingence could influence the zoological nomenclature and the animal classification"), in the previous issue of this Bulletin, has render incomprehensible the aim of the publication and masked it interest. So, I have asked the insertion here of this Erratum, corresponding to a digest of my paper:

The word "Embranchement", created by Cuvier (1812), indicating the main subdivisions of the Animal Kingdom (37 of them are present in the current nature) at the higher level, and the word "Phylum", introducted by Haeckel (1884 and 1894), to characterize a monophyletic lineage, are not synonyms and they not be utilized indifferently; the first corresponding to a SYSTEMATIC unit, the other to a PHYLOGENETICAL unit. Effectively, some very goodly delimited taxa (for example, the Bryozoa) can be by exception considered as an Embranchement and simultaneously as a Phylum. But the term "Phylum" is absurd for designate a systematic entity such the Placozoa, the Gnatosthomulida or the Cycliophora, including only one to three species, but between them it is impossible to reconstitute a phylogeny. After the Second World-wide War, some German authors (such Remane) have continued to use of the term Phylum in his primordial sense, also to designate indifferently taxa of intermediate rank, not only the higher, but also comprise between the ranks of Family and Class.

This confusion has a political origin. Now, fortunately, the searchers and the students from our various countries, in the time of the Erasmus grants, are working in mutual confidence and in friendly: a situation contrasting with the epoch where the international context acts on the mentalities, exacerbated by the European political climate.

The term Phylum was transferred from the phylogenetic to the systematical field, following imposture initiated, at the end of the XIXth and the beginning of the XXth centuries, by some prestigious zoologists (Hatscheck, Clauss, Grobben), supporters of the "Pargermanism", mixing the cultural and of ideas war and the political and military war, in contradiction to the ethical scientific rules. Principally between 1890 and 1915, these authors attempted to impose to the international scientific community a new Code of Zoological Nomenclature, of German redaction and terminology (Stamm, Hauptstamm), with the intention to substitute it to the International Code adopted in 1889 by the zoologists of all the countries - including Germany - during the first International Congress of Zoology (who they were absent....) ; a Code being from French inspiration, essentially redacted by the professor Raphaël Blanchard (a man known - by other way - on the other side of the Rhine by his germanophobia). In the taxonomic levels introduced by this German Code were new terms, as Stamm, retained terms from previous authors with modified significances, as Phylum, Clade or Divisio, the terms of the "French" Code being firstly placed as synonyms - in small typographical characters - of the German taxa (as Embranchement, for Phylum), and would be later completely suppressed from the scientific literature. The German terminology has not be retained after the First World-wide War by the international scientific community.

The word "Embranchement", firstly put in silence, was later forgotten by the scientists from other countries, excepted in the nations with French language. But the word "Phylum" was the only from the German Code to have been never forgotten during this period, owing the Haeckel's notoriety ; because he had created the term "Ecology" and was a theoretician of the phylogeny. So, the scientist of the period comprised between the first and the Second International Wars, ignorant of the term Embranchement" but knowing "Phylum", have reutilized the substantive of Haeckel with an erroneous significance, in consequence of an ignorance of the history of the zoology, and so without interrogations on the validity of the word.

In conclusion:
- Substitution by usurpation for politic reasons of the wrong term, Phylum, having a different significance, to the original Cuvier's term Embranchement, by violation of the rules of the scientific deontology.
- Haeckel, died in 1919, has obtained a posthumous moral victory on the winners of the two World-wide wars, a victory that his nation cannot obtain with the military means.

N. B. It is rightful to recall that Haeckel was one the 93 German intellectuals who approved in 1914 the bombardment and the invasion of the Belgium, and in correlation some brutalities on his population, and disapproved the indignation that this provocation have induced in the others European countries. I was also the theorician of personal conceptions on the human races, put into practice by his friends and collaborators, with dramatic consequences, in the vicinity of the Second World-wide War.

Jean-Loup d'Hondt

Editors note – When receiving articles that are in a language other than English I use Google Translate to quickly convert supplied text to English. This can result in errors in the translation. I recommend authors undertake the translation to English themselves so that the text can be checked before submission. I am quite happy to proof read the translation at your request.
Jean-Loup d'Hondt has supplied the above English translation, and in the interests of not inserting new errors I have not altered his text.

AUSTRALIAN BRYOZOA

Patrica Cook, Philip Bock, Dennis Gordon, Haylee Weaver (Eds)

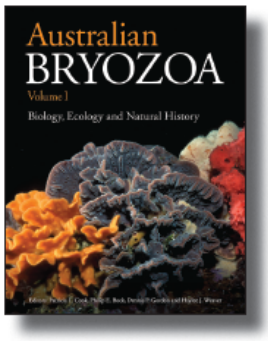
Australian Bryozoa

Patricia Cook, Philip Bock, Dennis Gordon, Haylee Weaver (Eds)

Bryozoans are aquatic animals that form colonies of connected individuals. They take a variety of forms: some are bushy and moss-like, some are flat and encrusting and others resemble lace. Bryozoans are mostly marine, with species found in all oceans from sublittoral to abyssal depths, but freshwater species also exist. Some bryozoans are of concern as marine-fouling organisms and invasive species, while others show promise as sources of anticancer, antiviral and antifouling substances.

Written by experts in the field, these two companion volumes describe Australia's 1200 known species of bryozoans, the richest diversity of bryozoans of any country in the world. They are authoritative references for biology students, academics and others interested in marine biology.

Australian Bryozoa Volume 1 and *Australian Bryozoa Volume 2* are published by CSIRO Publishing in partnership with the Australian Biological Resources Study.



Australian Bryozoa Volume 1

Biology, Ecology and Natural History

This volume covers the discovery of bryozoans, their morphology, classification and fossil history, roles in biosecurity and marine benthic environments, and potential uses in biotechnology and ocean acidification. It is richly illustrated with colour photographs, diagrams and scanning electron microscope (SEM) images.

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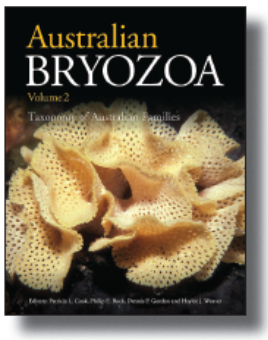

Australian Bryozoa Volume 2

Taxonomy of Australian Families

This volume contains detailed taxonomic data and illustrated family-level treatments, which can be used to identify specimens. It is illustrated throughout with scanning electron microscope (SEM) images showing intricate details of bryozoan biology and morphology.

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ABOUT THE EDITORS

Patricia Cook was born in England, and worked at the London Natural History Museum until retiring in 1986. After retirement she came to Australia to continue her work on bryozoan systematics. She has written or co-authored about 100 papers. She was instrumental in establishing the International Bryozoology Association, of which she was secretary for many years. Pat died aged 88 in late 2015.

Philip Bock has been a geologist, lecturing at RMIT until retiring in 1997. His enthusiasm for bryozoans arose after mapping the geology of south-western Victoria. He is an Honorary Associate at Museums Victoria, and created the "Bryozoan Home Page" website in 1994. He also is an editor for the World Register of Marine Species.

Dennis Gordon is an Emeritus Researcher at the National Institute of Water & Atmospheric Research (NIWA) in Wellington, New Zealand. He is a global authority on the biology and systematics of bryozoa but has an interest in all life, and served on the international project team of the Catalogue of Life.

Haylee Weaver is the fauna taxonomist at the Australian Biological Resources Study (ABRS). She is a parasitologist who has written extensively on the ecology of parasites of Australian rodents. Haylee edits fauna books for ABRS and has developed an interest in bryozoan taxonomy.

CONTENTS: VOLUME 1

CONTENTS: VOLUME 2

AUSTRALIAN BIOLOGICAL RESOURCES STUDY

In 1973 the Commonwealth Government established the **Australian Biological Resources Study (ABRS)** to document what plants and animals there are in Australia and where they occur. The ABRS is now part of the Department of the Environment. It brings together the expertise of scientists from around Australia and overseas, to prepare and publish authoritative information about Australia's flora and fauna.

ABRS

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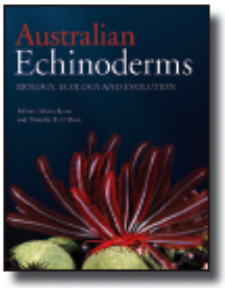

ORDERING INFORMATION

Australia Bryozoa Volume 1 and *Australian Bryozoa Volume 2* are published by **CSIRO Publishing** in partnership with the **Australian Biological Resources Study**, and are available worldwide. Please order with your local bookshop or check with your regional distributor for local pricing and shipping details.

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BOOK REVIEW

AUSTRALIAN BRYOZOA
Volume I – Biology, Ecology and Natural History
Volume II – Taxonomy of Australian Families

Cook P., Bock P.E., Gordon D.P. & Weaver H.J. (Eds), 2018, CSIRO Publishing, Hardcover, Vol. I, 194 pp., AU $ 140,-, ISBN: 9781486306794; Vol. II, 314 pp., AU $ 240,-, ISBN: 9781486306824; Vol. I + II set AU $ 350,-.

REVIEW ONE – Bjorn Berning

Australia is truly blessed with Bryozoa. It is not just that it's the country with the largest number of known species (*c*. 1200; i.e. about 1/5 of all the described species in the world), vast stretches of its extremely broad shelves also harbour a massive standing stock of large living colonies as well as sediments dominated by bryozoan remains unlike anywhere else on this planet (well, yes, its smaller neighbour New Zealand comes close, but...).

It is thus neither surprising that a book on Australian bryozoans has finally been published, which introduces non-expert nature lovers and non-bryozoan biologists to this often neglected phylum, nor that this book comes in two volumes, simply owing to the sheer amount of information that is out there.

Both volumes are divided into separate chapters, each with a reference section at the end that facilitates locating the cited works, and terminate with an alphabetical index. Thirteen eminent bryozoologists, unsurprisingly predominantly from the AUS-NZ region, have contributed to this work that captivates the reader with an excellent production standard, which, of course, comes at a price (to be paid in AUS $). There are drawings throughout the two books to aid the descriptive text and to illustrate bryozoan species that are difficult to depict with microscopic images. Besides a wealth of black-and-white scanning electron micrographs (SEM) and optical photos, the middle section of Vol. I also contains numerous colour images, mostly underwater photographs taken by Karen Gowlett-Holmes, to depict the vivid colours of Australian bryozoans.

Volume I conveys the reader to the general biology, phylogeny and ecology as well as to the terminology of bryozoan morphology in two separate chapters. Another chapter is devoted to the classification of growth forms in Cenozoic and Recent bryozoans. The remaining sections focus more specifically on Australian examples and deal with the history of bryozoan discoveries around Australia, bryozoans on seamounts in that region, the economic impact of invasive species and bioactive compounds, their role in research on ocean acidification, and the occurrence of bryozoans in marine benthic environments. The last (albeit very short) chapter is devoted to Palaeozoic, Mesozoic and Cenozoic fossils from Australia, which is followed by a glossary of special terms.

Volume II, the taxonomic section, is partitioned into four chapters on the Cyclostomata, Ctenostomata, Cheilostomata and Phylactolaemata. Each section starts off with a more detailed account on these groups before every bryozoan family occurring in the Australian region is detailed. The authors provide information on the family's taxonomic history, morphology and general biology, as well as their genus- and species-level diversity. A representative species of most genera is figured, so that over 200 images are provided of the Cheilostomata alone.

Australian Bryozoa is not quite a field guide as some genera and, of course, most species are not figured, while some of the imaged species had to be left in open nomenclature and are pending description/revision. Also, keys to the different taxa are not provided. However, it does give the reader a very good idea of the wealth of morphologies displayed by Australian bryozoans, and certainly acts as a baseline for future taxonomic research that hopefully will commence anew and strong with the very recently launched project *Discovering Biodiversity – A Decadal Plan for Taxonomy and Systematics in Australia and New Zealand*. Because as much as it is a compendium on what we know about Australian bryozoans, this work should be taken as a statement (or rather a call of distress) on how little we actually do know.

Right on the first page it is stated that well over 2000 species may actually be present in Australian waters. Based on my experience with taxonomic revisions and geographic distributions of bryozoans from much better known and more thoroughly sampled regions of the world, however, I would not be surprised if the actual number will be well

over 4000 or even 5000 species. As the authors mention, almost nothing is known of the western (just think of Ningaloo Reef!) and northern regions of Australia, for instance, and hardly any targeted sampling of bryozoans along coastal to bathyal transects have taken place to date. Just to give an example: of the 8 specimens of *Adeonellopsis*, and the 12 of *Adeona*, from the western part of Western Australia that were sent to us for genetic analyses by the Museum Victoria (Melbourne) last year, almost every colony represented a different (and very likely new) species! These few haphazard samples would thus double the presently known number of Australian species in the two genera.

Thus, *Australian Bryozoa* was published in good time to convey the (economic) importance of the bryozoan diversity in Australian waters to the decision-makers within the *Decadal Plan*. Considering how much work there is left to do until we can say that the Australian bryofauna is reasonably well known, two or three permanent positions for bryozoan taxonomists is not too much asked for. I therefore hope these books will make it into the libraries and on the desks of many Australian (and New Zealand) natural history museums and university departments!

Björn Berning

REVIEW TWO – Leandro M Vieira

Australian Bryozoa has also been reviewed by Leandro Vieira in Systematic Biology. Please use the link below to access this review.

https://doi.org/10.1093/sysbio/syy053

MEETINGS AND CONFERENCES

SECOND CIRCULAR OF 18TH IBA CONFERENCE IN LIBEREC, CZECH REPUBLIC

Technical University in Liberec invites you to the 18th IBA Conference

16-22 June 2019

For the most up to date information visit the website http://18iba.tul.cz/
See also the report from Paul Taylor earlier in this newsletter on his visit to Liberec

Getting there from Prague Airport

Based on the recent experience of Paul Taylor, we suggest taking bus number 100 from the airport to the Zličín station of the yellow metro line. Take the metro from Zličín to the opposite end of the line, Černý Most. From there you can a take quick and convenient bus leaving each hour directly to Liberec (https://jizdenky.regiojet.cz/?0). If you book Pytloun Hotel, get off on Liberec AN – the end station. The bus trip takes about 1.15 hours.

If a large group arrives at the Prague airport in a short time, there is a possibility we can arrange group transport directly from the airport to Liberec. We will consider this possibility after we know more about participant's arrival times.

Tentative timetable:

- 1 September 2018: Online registration and payment possibilities open;
- 1 October 2018: IBA Awards applications due;
- 1 November 2018: End of early registration and payment;
- 30 January 2019: End of final registration, all fees and abstracts due;
- April 2019: Third circular;
- 9-15 June 2019: Pre-conference field trip starts in Budapest, ends in Liberec – Fossil Bryozoa organized by Kamil Zágoršek: Bohemian Palaeozoic, Cretaceous and Moravian tertiary (bus - limited number of participants around 40, minimum 8). Price 22 500 CZK;
- 16-22 June 2019: Conference including dinner and mid conference geological sightseeing tour. Price for early registration10 500 CZK (due to 1. November 2018), regular registration 12 500 CZK.
- 23-29 June 2019: Post conference trip: starts in Prague, ends in Dubrovník – Recent Bryozoa organized by Maja Novosel: Adriatic sea (fly and ship - limited number of participants around 40, minimum 20) price around 1500 Euro
- 31 August 2019: Revised manuscripts due

Current exchange rate from CZK (Czech Koruna) to Euro is about 25.8, so the commercial bank may charge you about 26.0 CZK for 1 Euro. It means you may have to pay about 3.8 to 4.0 Euro for 100 CZK.

Prices

- Full price for the conference is 12 500 CZK including lunches each day, conference dinner, mid conference trip and conference proceedings, "Bryozoan Studies 2019". Early registration (due to 1. November 2018) is 10 500 CZK

- The student price will depend on number of participants. We hope be able to offer it for 6 000 CZK. The final price will be announced after the end of the early registration, on November 2018.
- The price for accompanying persons is 9 000 CZK, including conference dinner, mid conference trip, lunches, gallery, Zoo and botanical garden entry and one-day trip to neighbour countries (visiting Poland and Germany). Individual wishes of the accompanying person will be considered with highest possibility. We will do our best to ensure you will love Liberec;-)
- Separate price for the conference dinner is 1000 CZK, and for the mid conference trip is 2 000 CZK. If anyone wishes to include someone else on these events, please contact the organizing committee soon.

Key topic

- The key note topic of the first day of the Conference will be **Bryozoans Without Substrata**. Up to now Eckart Hakansson, Leandro Vieira, Antonietta Rosso and Aaron O'Dea have expressed their interest to participate. We invite all participants willing to contribute to this topic, to contact the organizing committee soon.

Problem;-)

- The number of declared participants is still very low, only 65. I believe, the Conference will be a great possibility to meet, discuss and to enjoy the hospitality and low prices in Liberec. I really believe to have at least 80 participants;-))

See you in Liberec in 2019!

Kamil Zágoršek and the Organizing Committee

PROCEEDINGS OF THE 17TH INTERNATIONAL BRYOZOOLOGY ASSOCIATION CONFERENCE.

Final editing of the conference volume was completed and sent to the publishers in August 2017. Unfortunately there have been delays with the AAP editors and publication that have been outside the control of the IBA editorial team. The AAP editors have assured us that it is their intention and expectation that this volume will be published in 2018. We sincerely apologise for this delay.

All papers are accepted and in press and your manuscripts can be referred to as

Author, 2018, title. IN *Bryozoan Studies 2016*. Proceedings of the Seventeenth International Bryozoology Association Conference, 10-15 April 2016, Melbourne, Australia. EDS Schmidt, R., Reid. C.M., Gordon, D.P., Walker-Smith, G., Martin, S. & Percival, I. Memoirs of the Australasian Association of Palaeontologists vol XX, pp. xx–xx. ISSN XXXX.

Rolf Schmidt, Catherine Reid, Dennis Gordon

JOURNAL COVER

Ernst, A., Krainer, K. & Lucas, S. (2018): Bryozoan fauna of the Lake Valley Formation (Mississippian), New Mexico. Journal of Paleontology, 92(4): 568–576.

RECENT PUBLICATIONS

The following list includes bryozoan related works either published since the previous issue of the *IBA Bulletin* as sent in to the editor. As always, members are encouraged to support future compilations by continuing to send complete citations to the IBA secretary at any time. Accuracy of your citation is assured if sent in bibliographic format, if re-drafting is required by the editor accuracy is not guaranteed! Reprints will be gratefully received by the IBA archivist, Mary Spencer Jones.

Bastos, A.C., Moura, R.L., Moraes, F.C., Vieira, L.S., Braga, J.C., Ramalho, L.V., Amado-Filho, J.M., Magdalena, U.R., Webster, J.M. (2018) Bryozoans are Major Modern Builders of South Atlantic Oddly Shaped Reefs. Scientific Reports 8 (9638). https://doi.org/10.1038/s41598-018-27961-6

Bolotov, I.N., Makhrov, A.A., Gofarov, M.Yu., Aksenova, O.V., Aspholm, P.E., Bespalaya, Yu.V., Kabakov, M.B., Kolosova, Yu.S., Kondakov, A.V., Ofenböck, T., Ostrovsky, A.N., Popov, I.Yu., von Proschwitz, T., Rudzīte, M., Rudzītis, M., Sokolova, S.E., Valovirta, I., Vikhrev, I.V., Vinarski, M.V., Zotin, A.A. (2018) Climate warming as a possible trigger of keystone mussel population decline in oligotrophic rivers at the continental scale. Scientific Reports. DOI: 10.1038/s41598-017-18873-y

Buttler, C.J. and Wilson, M.A. 2018. Paleoecology of an Upper Ordovician submarine cave-dwelling bryozoan fauna and its exposed equivalents in northern Kentucky, USA. Journal of Paleontology 92: 568 – 576.

Dick MH, Sakamoto C, Komatsu T (2018) Cheilostome Bryozoa from the Upper Cretaceous Himenoura Group, Kyushu, Japan. Paleontological Research 22(3):239-264. doi: 10.2517/2017PR022

Ernst, A., Krainer, K. & Lucas, S. (2018): Bryozoan fauna of the Lake Valley Formation (Mississippian), New Mexico. Journal of Paleontology, 92(4): 568–576.

Ferrario, J., Rosso, A., Marchini, A., Occhipinti-Ambrogi, A., 2018. Mediterranean non-indigenous bryozoans: an update and knowledge gaps. Biodivers Conserv (2018) 27:2783–2794. https://doi.org/10.1007/s10531-018-1566-2

Figuerola, B., Gordon, D.P. & Cristobo, J. (2018) New deep Cheilostomata (Bryozoa) species from the Southwestern Atlantic: shedding light in the dark. Zootaxa 4375: 211–249.

Karagodina N.P., Vishnyakov A.E., Kotenko O.N., Maltseva A.L., Ostrovsky A.N. (2018) Ultrastructural evidence for nutritional relationships between a marine colonial invertebrate and its bacterial symbionts. Symbiosis 75: 155-164. DOI: 10.1007/s13199-017-0516-1

Mathew M., Schwaha T., Ostrovsky A.N., Lopanik N.B. (2018) Symbiont-dependent sexual reproduction in marine colonial invertebrate: morphological and molecular evidence. Marine Biology 165: 14. DOI: 10.1007/s00227-017-3266-y

Nielsen, C., Bekkouche, N. T. & Worsaae, K. 2018. Neuromuscular structure of the larva to early ancestrula stages of the cyclostome bryozoan *Crisia eburnea*. Acta Zool. (Stockh.), doi:10.1111/azo.12252 (2018).

Rust, S. 2018 "Bryozoans on Kauri Gum and Amber", in GEOCENE Auckland Geoclub Magazine, number 17, June 2018, p 2-3.

Schack, C.R., Gordon, D.P. & Ryan, K.R. (2018) Classification of cheilostome polymorphs. Annals of Bryozoology 6: 85-134.

Schwaha T., Handschuh S., Ostrovsky A.N., Wanninger A. (2918) Morphology of the bryozoan *Cinctipora elegans* (Cyclostomata, Cinctiporidae) with the first data on its sexual reproduction and the cyclostome neuro-muscular system. BMC Evolutionary Biology 18: 92. DOI: 10.1186/s12862-018-1206-1

Sokolover N., Ostrovsky A.N., Ilan M. *Schizoporella errata* (Bryozoa: Cheilostomata) in the Israeli Mediterranean Sea: abundance, growth rate and reproduction strategy. Marine Biology Research. (accepted)

Yang, H.J., Seo, J.E., Min, B.S., Grischenko, A.V. & Gordon, D.P. (2018) Cribrilinidae (Bryozoa: Cheilostomata) of Korea. Zootaxa 4377: 216–234.

Vinn, O., Ernst, A. & Toom, U. (2018): Symbiosis of cornulititds and bryozoans in the Late Ordovician of Estonia. (Baltica). Palaois, 33 (7): 290-295.

Vinn, O., Ernst, A. & Toom, U. (2018): Bioclaustrations in Upper Ordovician bryozoans from northern Estonia. Neues Jahrbuch für Geologie und Paläontologie, Abhandlungen, 289(1): 113-121.